AIChE/CACHE Mobile Device App Competition Update

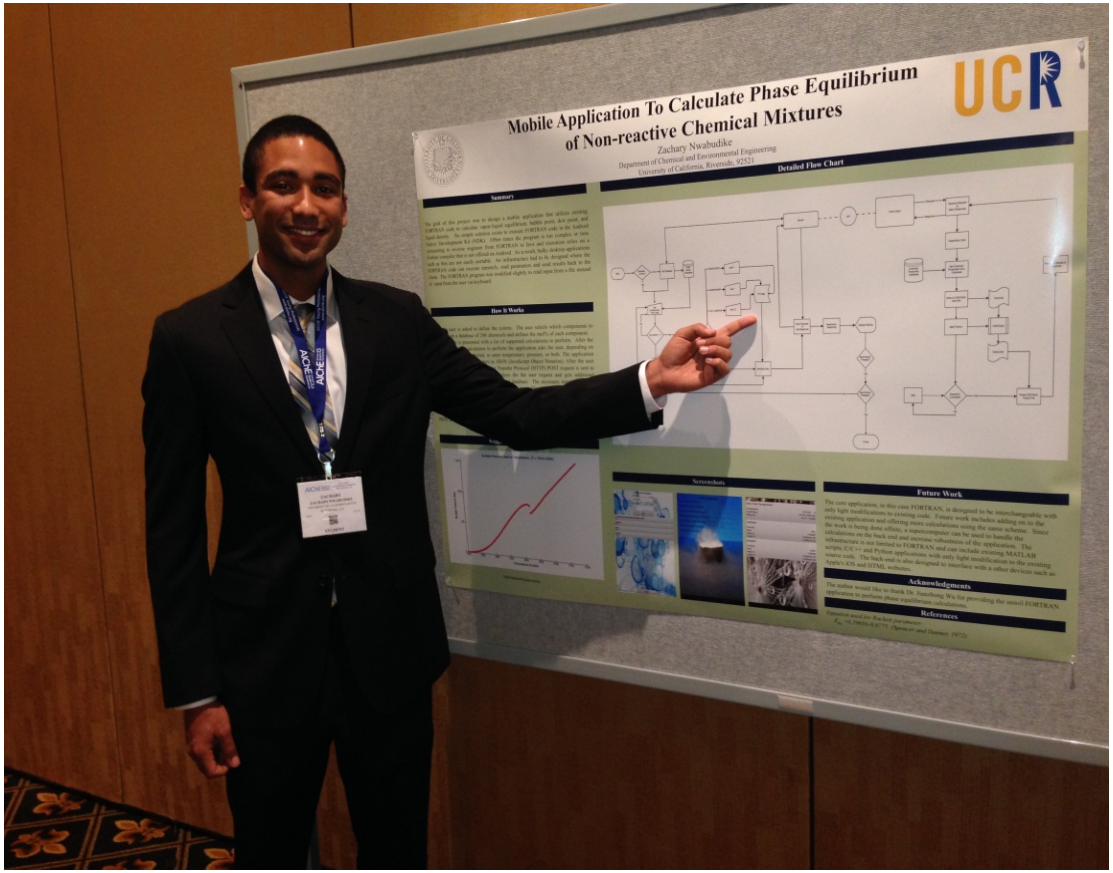
Robert P. Hesketh

2013-2014

ROWAN UNIVERSITY College of Engineering

First winner of the AIChE/CACHE Mobile Device APP National Competition

- Zachary Nwabudike, University of California, Riverside



Winning App

- written for Android mobile devices
- Purpose: predict physical properties and phase equilibrium of non-reactive chemical mixtures. This program performs the following calculations:
  - Isothermal VLE flash
  - Dew-point temperature
  - Bubble-point temperature
  - Bubble-point pressure
  - Dew-point pressure
  - Liquid-density

Publicity

http://chenected.aiche.org/tools-techniques/meet-the-winner-of-the-2013-aiche-mobile-device-app-competition/

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December 17th, 2013

Meet the Winner of the 2013 AIChE Mobile Device App Competition

By admin | Comments (0)

Zach Nwabudike, a student at the University of California, Riverside, was the winner of the 2013 AIChE Mobile Device App Competition. Hear about the winning app, which calculates the phase equilibrium of non-reactive chemical species. Check out the interview with Zach below, and watch the demo video.

Interview

Demo video

Mobile Device App Competition

Student AIChE/CACHE Mobile Device APP Competition

- Prizes
  - $500 from CACHE for the best mobile device APP
  - $500 from a corporate sponsor for the best mobile device APP that addresses safety.
- **Timeline:**
  - Intent to submit starting 31 January 2014
  - Preliminary APP Submission March 2014
  - Final APP and Technical Documentation Submission 11/1/2014
  - Poster Competition – 11/16/2014 Atlanta, GA

APP Competition - Rules

- Student teams must consist of fulltime students during the 2013-14 Academic Year
- Student teams can consist of any discipline, but at least half of the team must be members of the AIChE
- Student developed APPs can be constructed using existing software templates and components.
- The final APP must be an original creation of the team.
- Submissions must comply with intellectual property rules (e.g. copyright etc.)
- The student team must have at least one team member presenting at Annual Meeting.
- The App must be able to run on a mobile device that uses one of these operating Systems: Android, BlackBerry, iPhone, Palm, Symbian, or Windows Mobile. The App can either run native on the operating system or operate through a browser-side technology (HTML, CSS or Javascript) but have a mobile appearance.

APP Competition - Judging

- Creativity and uniqueness of the APP (15%)
- Usefulness of the APP (20%)
- Ease of use of the APP(15%)
- Professional and/or Societal Impact of APP (20%)
- Poster Presentation which includes demonstration of APP on a mobile device at AIChE Annual Meeting (30%)

Submission - 3 November 2014

- listing of undergraduate and graduate students working on the APP, University or Universities represented by students
- mobile device and operating system if running native on the mobile device,
- Details describing the APP similar to that found on itunes or android or amazon etc. This section should contain a description of the APP with screen shots.
- Sources of technical information and physical properties. This section should include any equations that were used.
- Sources of software components that were used in APP
- Flow chart illustrating how the APP works
- Sufficient worked-out examples to verifying the utility of the APP
- Description of broad impacts of chemical engineering on society
- APP Code files

Universities

- Kansas State University, Manhattan, KS
- University of Louisiana at Lafayette (up to 3 entries)
- University of Buffalo
- Rowan

Examples: Kansas State

- Our app is a game designed around pump dynamics. The goal of each level is to add or change equipment, with an emphasis on pumps, to achieve a Chemical Engineering goal such as moving liquids from containers at different heights. The hope is that this game will be able to be used as a teaching tool as well as a fun activity.
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Example: University of Louisiana at Lafayette

- This app will list famous chemical engineers and researchers, past and present. A map would be provided to indicate where each of these famous engineers were born, where they went to college, and where they spent their professional lives. A quiz may also be included in the app to score users knowledge of these engineers.

Example: University of Louisiana at Lafayette

- This app will display infamous chemical/industrial disasters on a map and provide users with information about that disaster when they click on the location of the disaster, which is indicated by a map marker. The app may also include a quiz section where users are asked questions pertaining to the disasters and are scored based on their answers to these questions.